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If you have questions or comments about the GLMRIS Newsletter or have suggestions for future topics you would like to see addressed, please contact the U.S. Army Corps of Engineers, Chicago District Public Affairs Office at ChicagoDistrict.PAO@usace.army.mil, or call us at 312-846-5330.

Additional information about GLMRIS, including previous issues of the newsletter, press releases and interim products are available online at glmr.is.anl.gov.

The purpose of GLMRIS is to evaluate a range of options and technologies to prevent aquatic nuisance species transfer via aquatic pathways between the Great Lakes and Mississippi River basins by aquatic pathways.

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GLMRIS Report

"We have a laser-like focus on producing the best document we can in the GLMRIS Report," said GLMRIS Chicago Area Waterway System Project Manager Dave Wethington.

Submission to Congress of the GLMRIS Report that outlines controls to prevent the inter-basin transfer of aquatic nuisance species (ANS) between the Great Lakes and Mississippi River basins is less than six months away. The Agency Technical Review (ATR), scheduled to begin late summer, is a crucial factor in producing a high-quality product for decision makers.

"ATR allows the opportunity for sets of independent eyes with the appropriate technical expertise to review the work that's been completed by the GLMRIS Team," said Wethington.

The team has tapped into proficiencies across the U.S. Army Corps of Engineers (USACE) to improve and enhance the analyses that will be presented in the GLMRIS Report. Since the start of the study, the team has benefited from USACE Jacksonville District's significant invasive species management capability, based on their experience with Florida Everglades restoration. Other teams participating in the upcoming ATR are USACE's Institute for Water Resources, Engineer Research and Development Center and district offices in Tulsa, New Orleans and Portland. The ATR Team includes over 20 subject matter experts in risk assessment, plan formulation, economics, real estate, aquatic nuisance species, environmental compliance and various types of engineering (hydrology and hydraulics, civil, mechanical, electrical, environmental, geotechnical and structural).

"The GLMRIS Team can incorporate objective feedback into the study from reviewers who are fluent in the subject matter but not directly tied to the study," said USACE Project Manager Nicole Roach.

GLMRIS documents that have already undergone ATR include all of the publically released interim products, the Risk Assessment in fall 2012, each of the reports for the 18 pathways outside of the Chicago Area Waterway System and the Baseline/Future Without Project Conditions document in winter 2013.

The ATR team is expected to start reviewing the draft GLMRIS Report in August, with emphasis on material that has not been previously reviewed. The timeframe is approximately six to eight weeks to include two weeks of draft report review and comment submissions, two weeks for GLMRIS Team evaluation and response and two weeks for reviewers to back check the responses. Once all comments are resolved, the document will be submitted to USACE Great Lakes and Ohio River Division and Headquarters for final review.

The GLMRIS team identified over 90 technologies that may be effective at preventing transfer through an aquatic pathway for aquatic nuisance fish, algae, crustaceans and plants in all life stages. Through a screening and review process, this list has been narrowed down. The GLMRIS Report to Congress is likely to include hydrologic separation scenarios, a technologies scenario, a hybrid of physical barriers and technologies, non-structural measures and a no-action alternative that relies on the continuation of existing ANS prevention authorities like operation of electric barriers in the Chicago Sanitary and Ship Canal.

"None of these alternatives are being developed in a vacuum," said Wethington. "The GLMRIS Team has made every effort to update and meet with as many stakeholders as possible outside of the formal ATR Team for the study's duration."

"Numerous agencies, every day, are involved in this fight," said GLMRIS Program Manager Jack Drolet. "We are always looking for opportunities to get together with others to share our current commitments. We are working tirelessly in the aquatic nuisance species and Asian carp fight. The entire team is spread out across the country and working on technical and agency reviews to ensure our report due to Congress in December is as comprehensive as possible."



What about those 18 other pathways?

The GLMRIS Focus Area 2 Team has posted updated versions of the reports characterizing risks and potential opportunities to prevent or reduce the probability of inter-basin ANS transfer for the 18 pathways outside of the Chicago Area Waterway System. Draft versions of these reports were released between September 2012 and March 2013 to the public for comment and inter-agency technical reviews. Additional progress has been made on the sites that received overall ratings of medium or high for risk of transfer, such as:

Parker-Cobb Ditch, Ind.:

USACE is coordinating with the Natural Resources Conservation Service (NRCS) and the Porter County Indiana Drainage Board to identify some possible solutions for this agricultural ditch just south of Valparaiso. This pathway was given an overall rating of medium for the potential transfer of [northern snakehead](#) into the Great Lakes Basin and of [parasitic copepod](#), [threespine stickleback](#) and viral hemorrhagic septicemia virus (VHSV) into the Mississippi River Basin.

Ohio-Erie Canal at Long Lake, Ohio:

The Ohio Department of Natural Resources (ODNR) and USACE are working closely to identify some feasible structural solutions to prevent the three [Asian carp species](#) and [northern snakehead](#) from entering the Great Lakes Basin via the Tuscarawas River and the Ohio-Erie Canal in the vicinity of Portage Lakes, or just south of Akron. Any selected solution would be implemented by ODNR.

Little Killbuck Creek, Ohio:

Inter-basin transfer of ANS could occur in either direction at this large farm at the intersection of Repp Run and Little Killbuck Creek. Overbank flooding from these two creeks can reach the Great Lakes Basin from agricultural drainage and irrigation ditches by entering Clear Creek, which is a tributary to the Black River and Lake Erie. On the Mississippi River Basin side, Little Killbuck Creek flows into the Walhonding River and then into the Muskingum River. ODNR has reached out to the local NRCS and the Soil and Water Conservation District for their possible assistance in identifying structural and/or water management options to prevent all three species of [Asian carp](#), [inland silverside](#) and [northern snakehead](#) from transferring into the Great Lakes Basin and to prevent the [threespine stickleback](#), [ruffe](#), [tubenose goby](#), [parasitic copepod](#) and VHSV from transferring into the Mississippi River Basin.



What about those 18 other pathways?

Wisconsin Pathways:

Brule Headwaters, Portage Upstream, Portage Downstream and Rosendale-Brandon are four of the eight sites in Wisconsin given overall ratings of medium for the potential transfer of VHSv into the Mississippi River Basin. All other potential pathways in the state were rated low. The Wisconsin Department of Natural

Resources continues to evaluate its options and is in close coordination with USACE.

Eagle Marsh, Ind.:

The Eagle Marsh ANS Controls Report was completed in November 2012. The following month, a public meeting was held in Fort Wayne, Ind., and a separate meeting was conducted between the Indiana Department of Natural Resources, U.S. Geological Survey, NRCS, U.S. Fish and Wildlife Service, Maumee River Basin Commission, The Nature Conservancy, Little River Wetlands Project, Allen County Drainage Board, White House Council on Environmental Quality and USACE.

Discussion at this meeting focused on the reconstruction and reinforcement of existing berms to separate the two basins during flooding. Group consensus was that the quickest and most cost-effective implementation solution at this high-rated risk site would be to pursue the project independently, as part of U.S. Environmental Protection Agency's Great Lakes Restoration Initiative (GLRI), with a non-federal stakeholder or other Federal agency as project lead.

The current plan is to reconstruct the existing berm with a spillway elevation low enough that there would be minimal to no off-site impacts, but high enough to maximize separation without inducing flood

stages. After off-site properties are properly mitigated for, the spillway will be elevated to the level of a 1 percent annual chance event.

The path forward is a partnership between NRCS and USACE. USACE will complete Hydrology & Hydraulic modeling in support of NRCS' final berm design. This modeling includes additional surveys of channels and the land at select areas along Junk Ditch and Graham-McCulloch Ditch to further improve the understanding of expected impacts after berm implementation.

A study of the Graham-McCulloch watershed is also expected for completion this summer.



White House Council on Environmental Quality Asian Carp Director John Goss updates the GLMRIS Executive Steering Committee on Focus Area 2 efforts, Chicago, April 18, 2013. Representatives from the Council on Environmental Quality, state departments of natural resources, U.S. Fish and Wildlife Service, the Metropolitan Water Reclamation District, Department of Transportation, Great Lakes Commission, Corps of Engineers and U.S. Environmental Protection Agency were in attendance.

PATHWAYS

LEGEND

Great Lakes Great Lakes Basin

Upper Mississippi River Basin Lower Mississippi River Basin

Border of Great Lakes and Upper Mississippi River Basins

Click Me

NAME	COUNTY	STATE
1 East Mud Lake	Chautauqua	NY
2 Mosquito Lake-Grand River	Trumbull	OH
3 Ohio and Erie Canal at Long Lake	Summit	OH
4 Little Killbuck Creek	Medina	OH
5 Grand Lake-St Mary's	Mercer	OH
6 Eagle Marsh, Fort Wayne	Allen	IN
7 Loomis Lake	Parlier	IN
8 Parker Ditch - Cobb Ditch	Parlier	IN
9 Portage (Upstream)	Columbia	WI
10 Portage (Downstream)	Columbia	WI
11 Jerome Creek	Kenosha	WI
12 W. Menomonee Falls	Waukesha	WI
13 Rosendale - Brandon	Fond du Lac	WI
14 Halley-Plover River	Marathon	WI
15 S. Anha Wetlands	Marathon-Shawano	WI
16 Brule Headwaters Portage	Douglas	WI
17 Swan River	Itasca	MN
18 Libby Branch of Swan River	Aitkin	MN

Calendar of events -- 2013 --

July, August 2013

July 29-Aug. 2 – 5th National Conference on Ecosystem Restoration (NCER), Chicago, Ill., www.conference.ifas.ufl.edu/ncer2013/

September 2013

Sept. 9 – Great Lakes Commission Semi-Annual Meeting, Milwaukee, Wis., www.glc.org
 Sept. 10-12 – Healing Our Waters' 9th Annual Great Lakes Restoration Conference, Milwaukee, Wis., <http://healthylakes.org/>
 Sept. 22-23 – Great Lakes Wind Collaborative 6th Annual Meeting, Columbus, Ohio, www.glc.org/energy/wind/

October 2013

Oct. 15-17—State of Lake Michigan and Great Lake Beach Association Joint Conference, Sheboygan, Wis., <http://aqua.wisc.edu/solm/>

December 2013

GLMRIS Report sent to Congress

In other ANS news



Going Green for Earth Day

During the month of April, for Earth Day, USACE Headquarters ran a campaign entitled “Going Green” that highlighted districts’ sustainability efforts across the country. The Chicago District chose to focus on a few programs that protect our natural resources, the Great Lakes and wetlands. “Working with our partners to protect our national treasures, our Great Lakes, from aquatic nuisance species is critical,” said Chicago District Commander Col. Frederic A. Drummond Jr. “The Corps mission is about sustaining our water resources, sustaining our communities and sustaining our nation’s economic resources.”

USACE strives to protect, sustain and improve the natural and man-made environment of our nation, and is committed to compliance with applicable environmental and energy statutes, Regulations and Executive Orders. Sustainability is not only part of the Corps' decision processes, but is also part of its culture.

“The Corps employs a diverse team of environmental professionals whose goals are ensuring sustainability and improving quality of life and seeking balance and synergy between natural systems and human development,” said Drummond.

2013 Asian Carp Monitoring and Response Plan

The 2013 Asian Carp Regional Coordinating Committee (ACRCC) Monitoring and Response Plan for Illinois Waters, released in May, details over \$6.5 million of Asian carp monitoring, sampling, removal and response activities in the Chicago Area Waterway System (CAWS) and upper Illinois Waterway and on-going evaluations of the effectiveness of barriers and gears used in keeping Asian carp from establishing in the CAWS and Lake Michigan.

"This robust inter-agency program to assess the location and abundance of Asian carp is just one important component of the Corps prevention strategy and helps us in making effective electric barrier operation decisions," said Drummond.

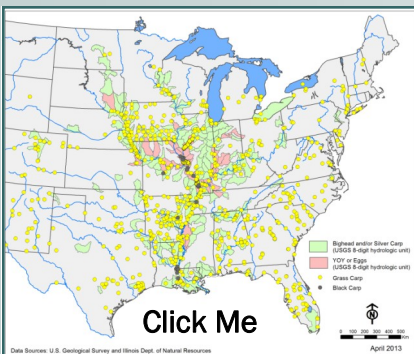
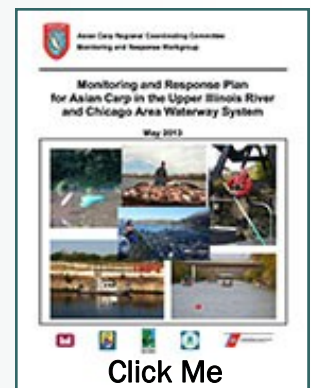
This year, construction began on another permanent electric barrier in the Chicago Sanitary and Ship Canal, in addition to Barriers IIA and IIB, authorized by Congress as an upgrade of the original Demonstration Barrier.

The 2013 plan continues rigorous fish population sampling in the CAWS to watch closely for the potential presence of live Asian carp, including two intensive sampling events. The plan also continues sampling for Asian carp environmental DNA (eDNA) as a monitoring and surveillance tool; however, eDNA will no longer be used as a trigger for immediate rapid response actions until the scientific significance of results can be further refined.

“In the Chicago Area Waterway System, when results indicate positive detections for Asian carp eDNA, yet hundreds of hours of netting and electrofishing turn up no actual fish, we have the ecological and fiscal responsibility and duty to determine what the sources beyond a live fish could potentially be,” said USACE Fish Biologist and eDNA Program Manager Kelly Baerwaldt.

The [eDNA Calibration Study \(ECALS\)](#) is a collaborative effort between the USACE, the U.S. Geological Survey (USGS) and the U.S. Fish and Wildlife Service (USFWS). Through objective findings from lab and field studies, the inter-agency team discovered several possible vectors that could contribute to eDNA in the water to include bird fecal material, fishing gear (boats and nets), as well as barges that travel from areas with high numbers of Asian carp.

Lead for the eDNA surveillance program transitioned to USFWS in spring 2013.



Asian carp in North America distribution maps

In April, USACE, Illinois Department of Natural Resources (IDNR) and USGS released "Asian Carp Distribution in North America," which displays current data on the presence of bighead carp and silver carp at all life stages, as well as black carp and grass carp occurrences, in the Mississippi River, Ohio River and Great Lakes.

"The intent of this succinct, graphical documentation of locations of Asian carp individual captures, as well as areas with established populations, is to be a ‘living resource’ for ACRCC partners, decision makers and the public to access specific, timely information," said Baerwaldt.

Data were compiled through responses to an Asian Carp Questionnaire that was distributed to biologists at federal, state, academic, private-consulting and non-governmental organizations; the ACRCC Monitoring and Response Work Group, which include data since 2009 in detail for the CAWS and a majority of the Illinois Waterway; and the USGS’s Nonindigenous Aquatic Species Database.

"The ACRCC continues to take the threat of Asian carp as very real and to conduct intensive monitoring to help determine the location of this invasive fish," said Baerwaldt.